

UPS EQUALIZATION

CU SENDS MESSAGE TO RU TELLING IT TO SEND EQUALIZATION DATA TO CU USING ALL 8 OF THE FIRST 8 ORTHOGONAL CYCLIC CODES AND BPSK MODULATION.

1116

RU SENDS SAME TRAINING DATA TO CU ON 8 DIFFERENT CHANNELS SPREAD BY EACH OF FIRST 8 ORTHOGONAL CYCLIC CODES.

1118

CU RECEIVER RECEIVES DATA, AND FFE 765, DFE 820 AND LMS 830 PERFORM ONE ITERATION OF TAP WEIGHT(COEFFICIENT) ADJUSTMENTS.

1120

TAP WEIGHT (COEFFICIENT) ADJUSTMENTS CONTINUE UNTIL CONVERGENCE WHEN ERROR SIGNALS DROP OFF TO NEAR ZERO.

1122

AFTER CONVERGENCE DURING TRAINING INTERVAL, CU SENDS FINAL FFE AND DFE COEFFICIENTS TO RU.

1124

CONVOLVES SE CIRCUIT WITH FINAL FFE & DFE COEFFICIENTS INTO PRECODE FFE/DFE FILTER IN TRANSMITTER AND LOAD NEWLY

TRANSPARENCY VALUES

1126

CU SETS COEFFICIENTS OF PFE 765 AND DFE 820 TO ONE FOR RECEPTION OF UPSTREAM PAYLOAD DATA.

CALCULATED COEFFICIENTS INTO RU: XMTR PRECODE FILTER

54B
FIG. 45B
53B

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FROM FIG. 45B

DOWNSTREAM
EQUALIZATION

1128
CU SENDS EQUALIZATION TRAINING
DATA TO RU SIMULTANEOUSLY ON
8 CHANNELS SPREAD ON EACH
CHANNEL BY ONE OF THE FIRST
8 ORTHOGONAL CYCLIC CODES
MODULATED BY BPSK.

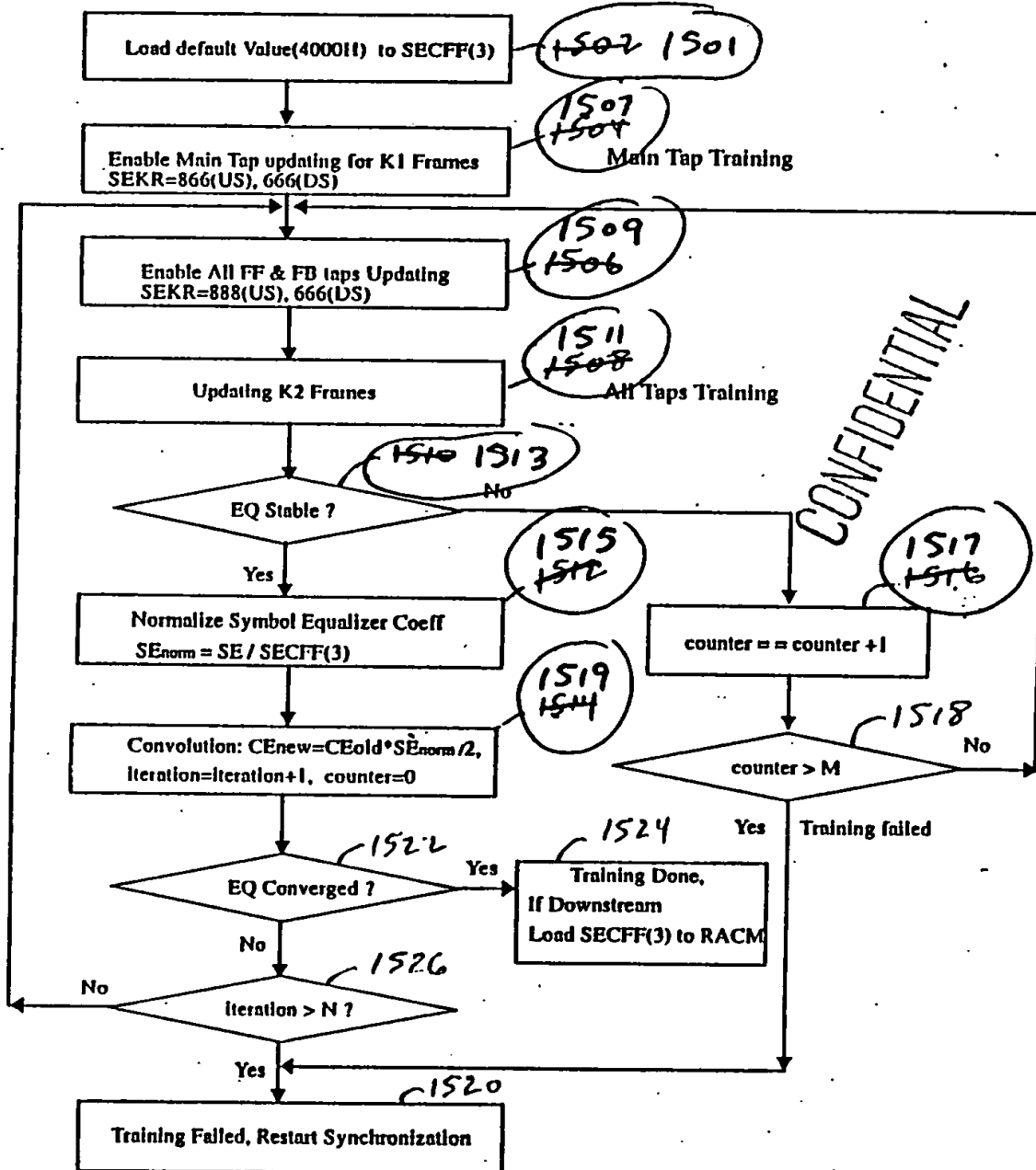
1130
RU RECEIVER RECEIVES EQUALIZATION
TRAINING DATA IN MULTIPLE
ITERATIONS AND USES LMS 830,
FFE 765, DFE 820 AND DIFFERENCE
CALCULATION CIRCUIT 832 TO
CONVERGE ON PROPER FFE AND
DFE TAP WEIGHT COEFFICIENTS.

1132
AFTER CONVERGENCE, CPU READS
FINAL TAP WEIGHT COEFFICIENTS
FOR FFE 765 AND DFE 820 AND
~~LOADS THESE TAP WEIGHT~~
~~COEFFICIENTS INTO FFE/DFE~~
~~CIRCUIT 764~~; CPU SETS FFE 765
AND DFE 820 COEFFICIENTS TO
INITIALIZATION VALUES.

CONVOLVES THESE
SE FILTER TAP
WEIGHTS WITH
THE OLD FILTER
TAP WEIGHTS
OF THE FFE AND
DFE FILTERS OF
CE CIRCUIT 764
AND LOADS THE
NEWLY CALCULAT
ED TAP WEIGHTS
INTO THE
FFE AND DFE
FILTERS OF
THE CE CIRCUIT

54C
FIG. 45C
53C

Initial 2-Step Training Algorithm



2-STEP INITIAL EQUALIZATION TRAINING
FIG. 60